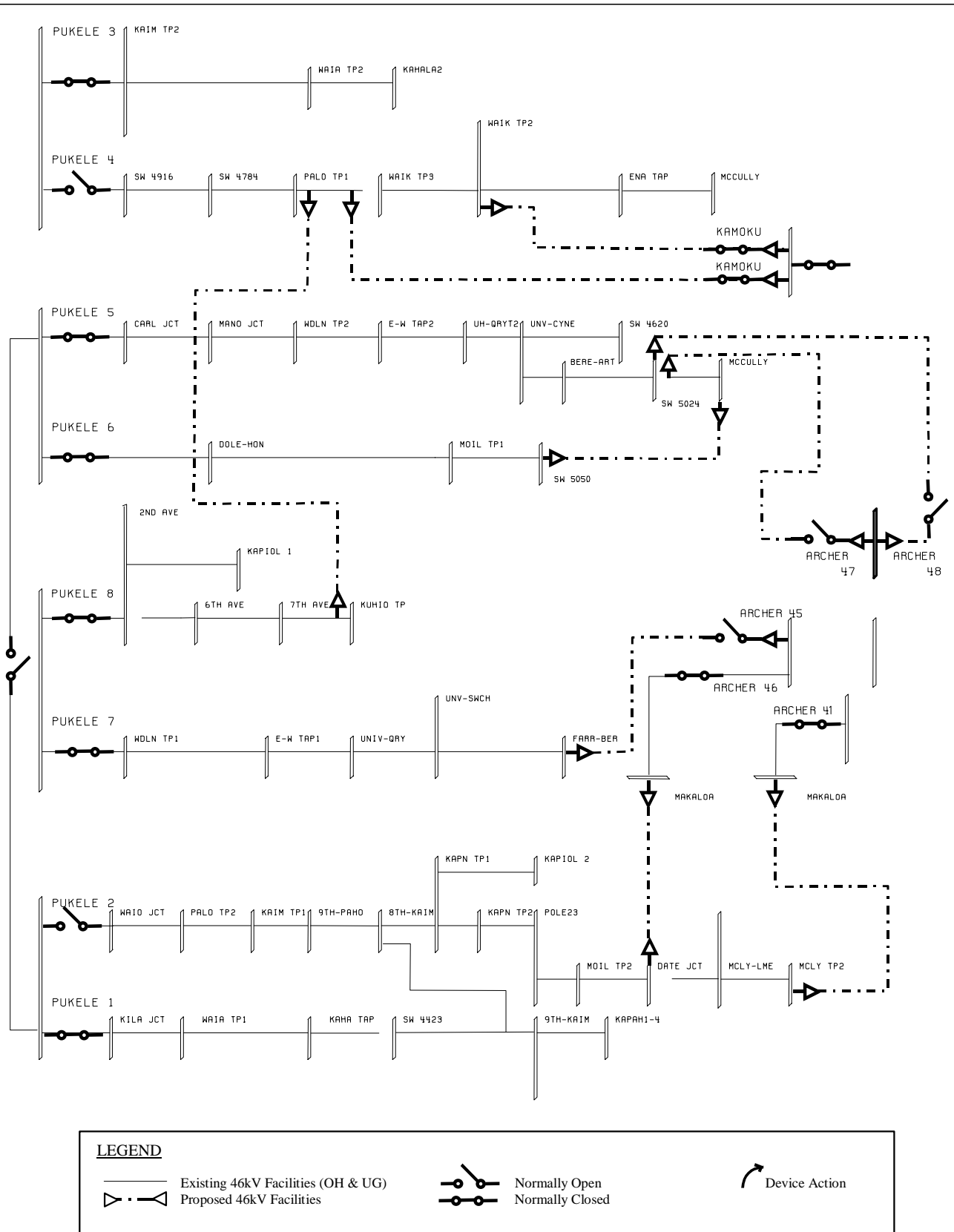
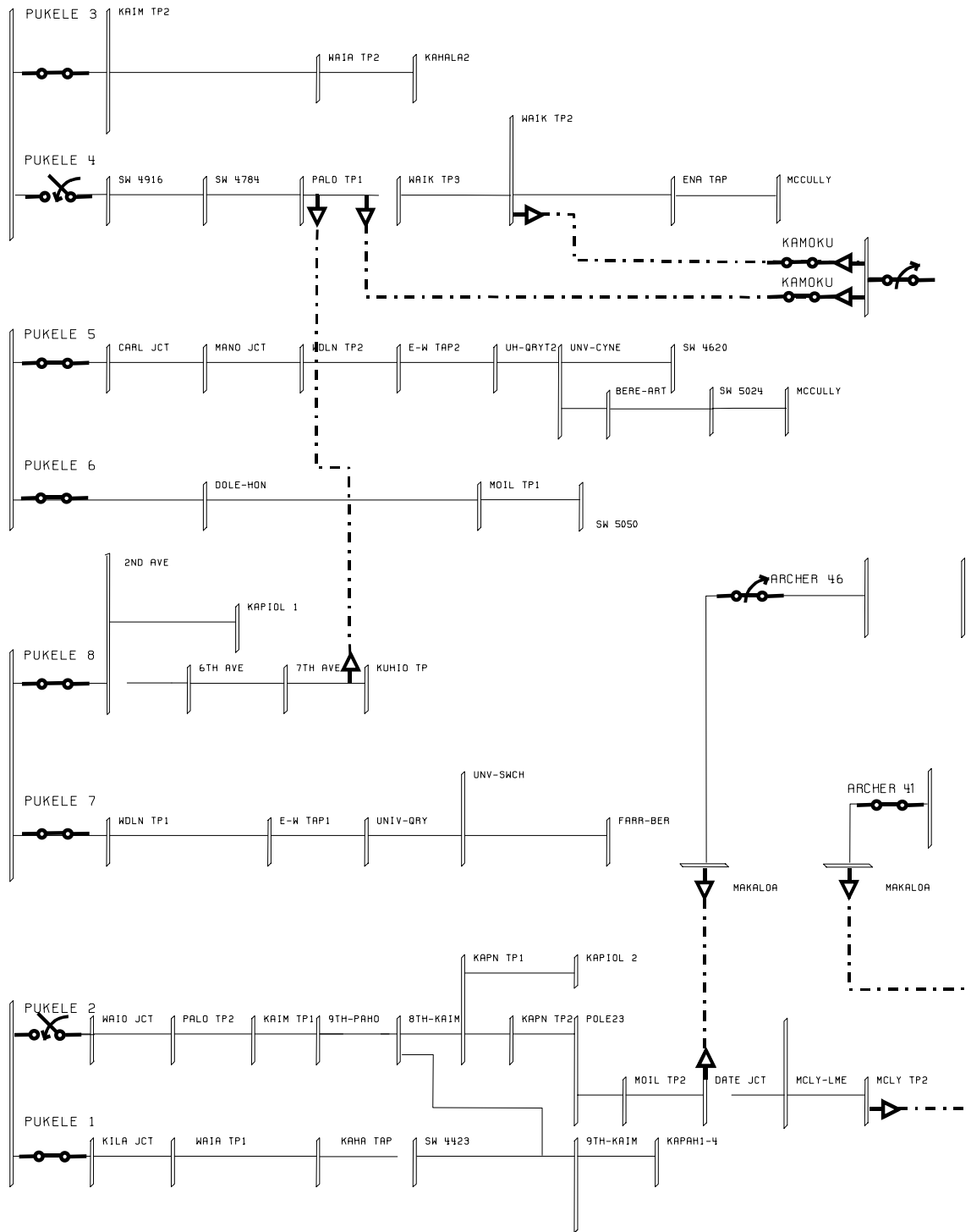


SIMPLIFIED DIAGRAM OF ARCHER-KAMOKU-PUKELE FEEDER CONNECTION
FOR KAMOKU 46 kV ALTERNATIVE (NORMAL LOAD)



SIMPLIFIED DIAGRAM OF ARCHER-KAMOKU-KOOLAU-PUKELE FEEDER CONNECTION FOR KAMOKU 46 KV UNDERGROUND ALTERNATIVE EXPANDED COOKE STREET - KING STREET (NORMAL LOAD)



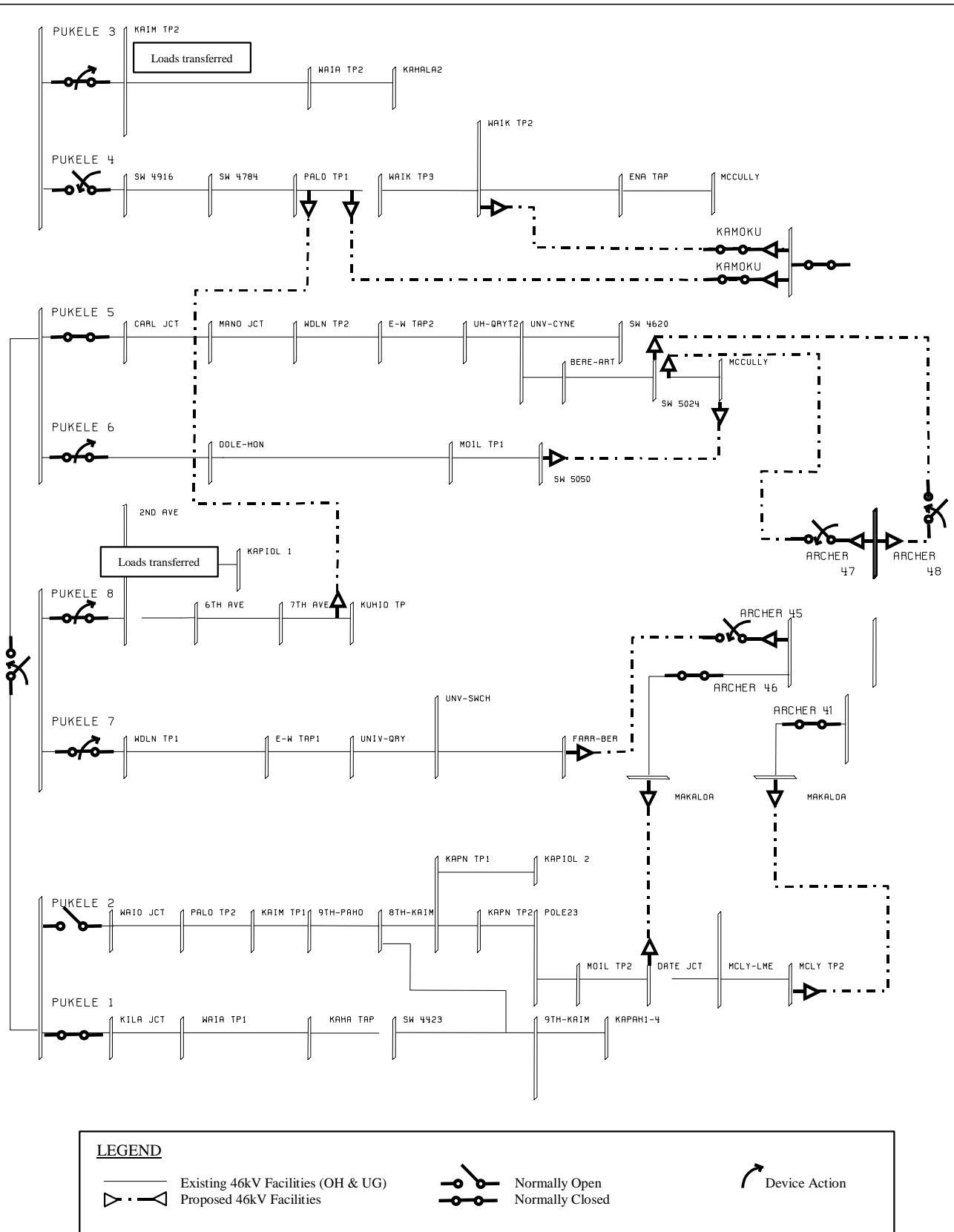
LEGEND

Existing 46kV Facilities (OH & UG)
Proposed 46kV Facilities

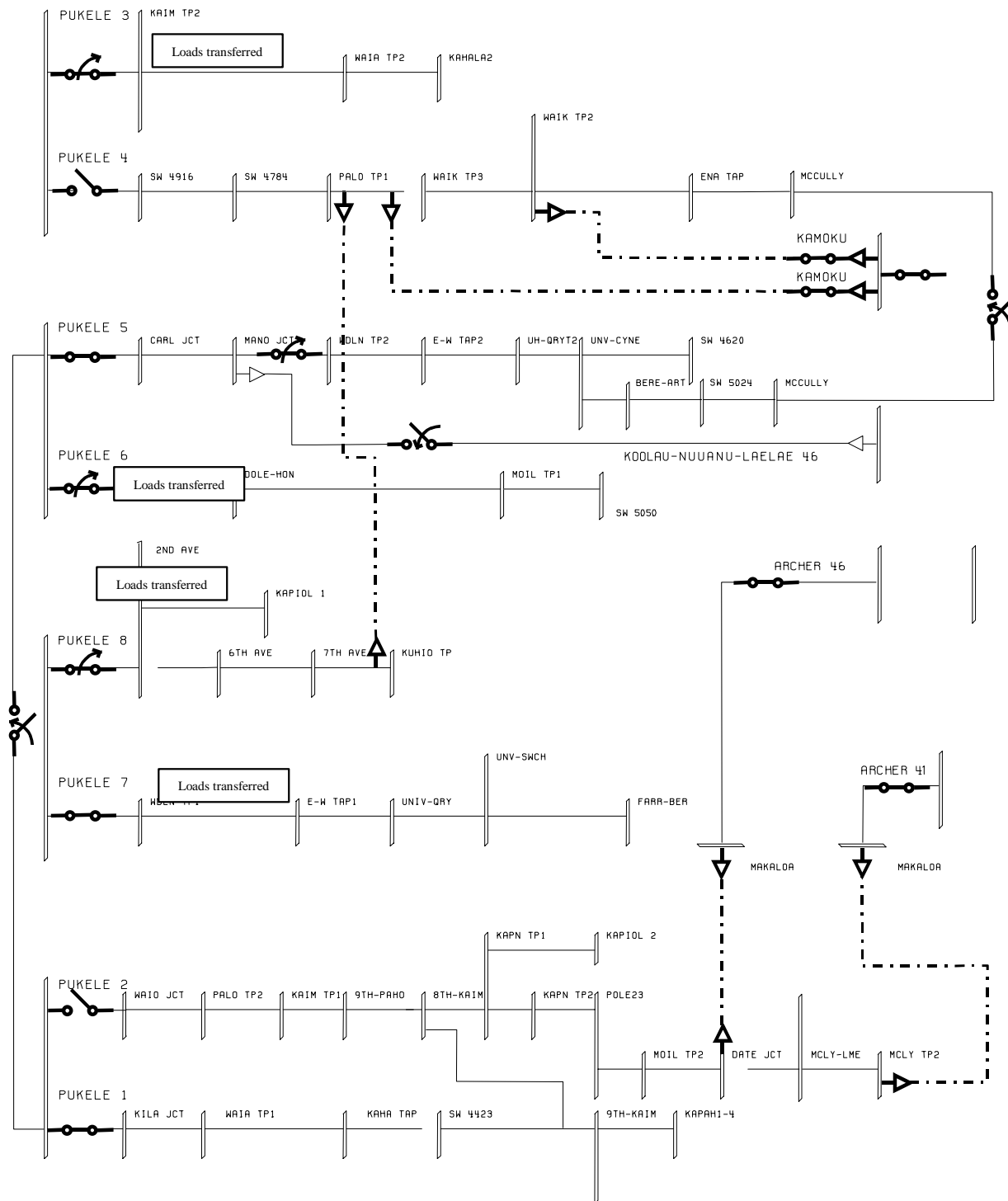
Normally Open
Normally Closed

Device Action

**SIMPLIFIED DIAGRAM OF ARCHER-KAMOKU-PUKELE FEEDER CONNECTION
FOR KAMOKU 46 kV ALTERNATIVE (DOWNTOWN CONTINGENCY CONDITION)**



SIMPLIFIED DIAGRAM OF ARCHER-KAMOKU-KOOLAU-PUKELE FEEDER CONNECTION FOR KAMOKU 46 KV UNDERGROUND ALTERNATIVE EXPANDED COOKE STREET - KING STREET (PUKELE OUTAGE CONDITION)



LEGEND

Existing 46kV Facilities (OH & UG)
Proposed 46kV Facilities

Normally Open
Normally Closed

Device Action

**SIMPLIFIED DIAGRAM OF ARCHER-KAMOKU-PUKELE FEEDER CONNECTION
FOR KAMOKU 46 kV ALTERNATIVE (PUKELE OUTAGE CONDITION)**

**Kamoku 46 kV Underground Alternative
Pukele Reliability Concern
Substation Impact Comparison**

No Interruption	6-sec. Interruption	2 to 4 hour Outage
McCully	Ena (portion)	Kahala
Ena (portion)	Waikiki (portion)	Waialae
Waikiki (portion)	Kapahulu (portion)	Pukele
Kapahulu (portion)	Kapiolani (portion)	Manoa
Kapiolani (portion)	Kaimuki (portion)	Woodlawn
Kaimuki (portion)	Moiliili	UH-Quarry
Kuhio		East-West Center

**Kamoku 46 kV Underground - Expanded Alternative
Pukele Reliability Concern
Substation Impact Comparison**

No Interruption	6-sec. Interruption		2 to 4 hour Outage
McCully	Ena (portion)	Kahala	None
Ena (portion)	Waikiki (portion)	Waialae	
Waikiki (portion)	Kapahulu (portion)	Pukele	
Kapahulu (portion)	Kapiolani (portion)	Manoa	
Kapiolani (portion)	Kaimuki (portion)	Woodlawn	
Kaimuki (portion)	Moiliili	UH-Quarry	
Kuhio		East-West Center	